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TITLE OF THE INVENTION

METHOD AND APPARATUS FOR OPTICAL SCANNING CAPABLE OF
REDUCING A DOT POSITION DISPLACEMENT AND A DOT DIAMETER
5 VARIATION

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16/04
5 This application is a con of U.S. application SN 10/218,916, filed 10/24/2002,
Pat. No. 6,788,444.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

10 The present invention relates to a method and apparatus for optical scanning,
and more particularly to a method and apparatus for optical scanning capable of
reducing a dot position displacement and a dot diameter variation based on a variation
in wavelength of a laser beam.

DISCUSSION OF THE BACKGROUND

15 Background optical scanning apparatuses for use in various image forming
apparatuses including laser printers, facsimile machines, and digital copiers have a
drawback in which a focal image position on an imaging surface is varied and
consequently an image quality on the imaging surface or on an output recording sheet is
degraded. This variation in focal image position on the imaging surface is caused when
20 a wavelength of a laser beam generated by a laser light source is varied and a refractive
index of optical devices are accordingly changed.

A technique described in Japanese Laid-Open patent publication, No. 09-
021944 attempts to avoid the effects from the variations in wavelength using a
dispersion nature of a glass lens to improve an accuracy of output images.

25 On the other hand, an optical scanning apparatus capable of simultaneous